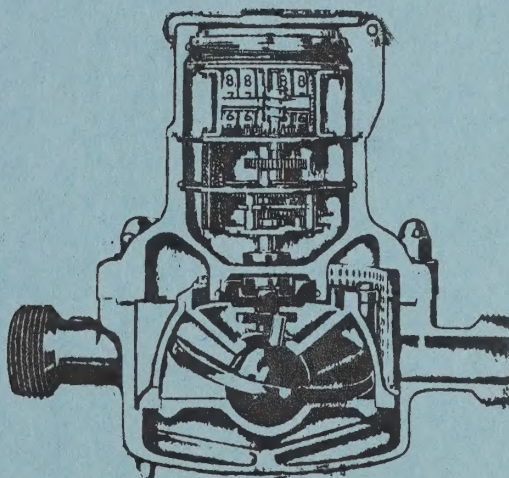


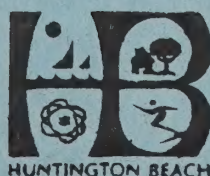
# URBAN WATER MANAGEMENT PLAN



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## URBAN WATER MANAGEMENT PLAN

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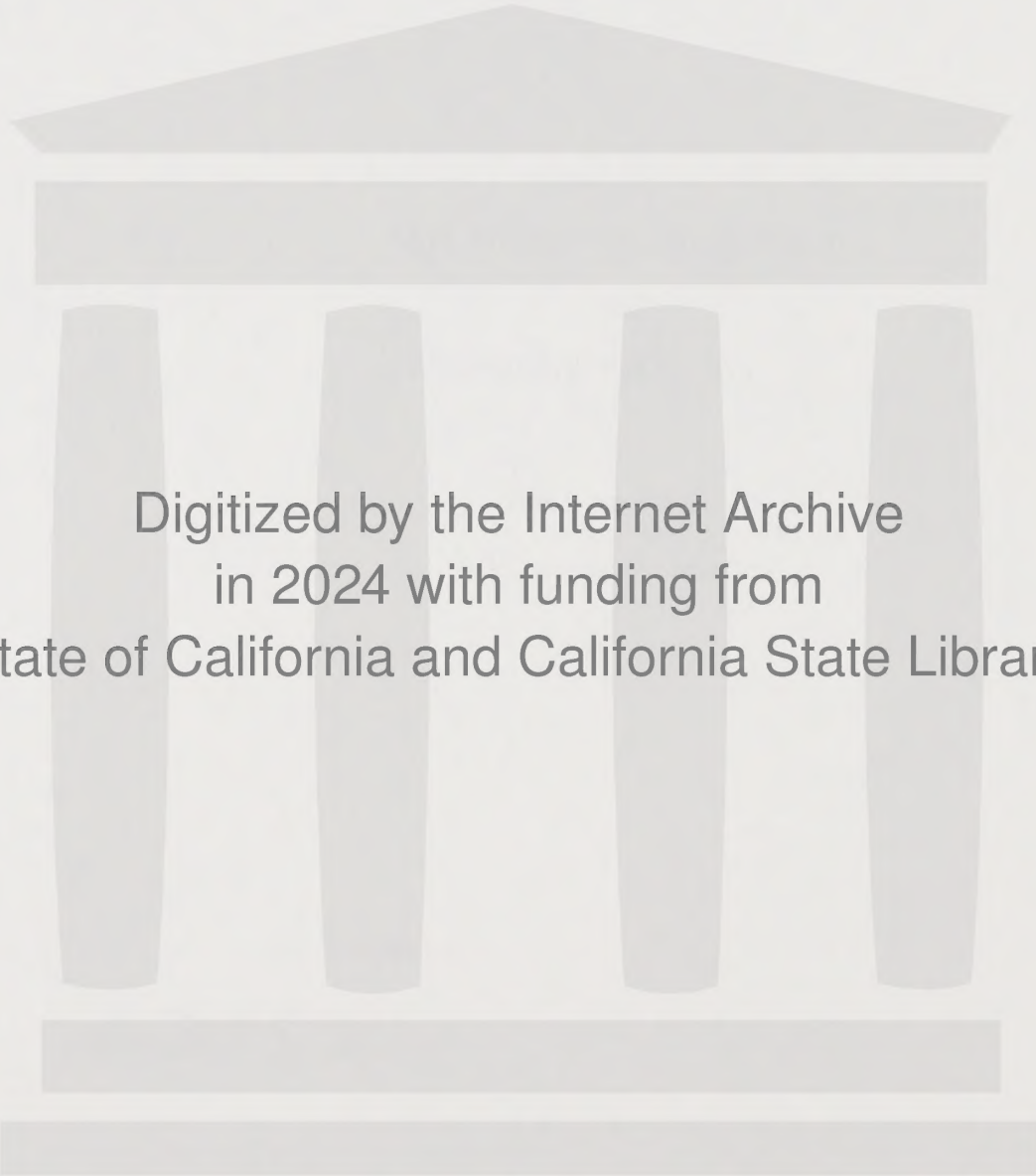
THE CITY OF HUNTINGTON BEACH

October 1985

Revised January 1986

Prepared by:

Water Division  
Dept. of Public Works



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CITY OF HUNTINGTON BEACH  
URBAN WATER MANAGEMENT PLAN

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## CHAPTER 1

### INTRODUCTION

The California State Legislature enacted the Urban Water Management Planning Act, Water Code Section 10610 through 10656 which was added by statutes 1983 Chapter 1009. While pending before the State Legislature, the Act was known as AB797. This Act requires that many urban water suppliers prepare and adopt an Urban Water Management Plan by no later than December 31, 1985.

In compliance with the Urban Water Management Planning Act, the Water Division of the City of Huntington Beach Department of Public Works has proposed this Urban Water Management Plan, incorporating portions of Municipal Water District of Orange County, Metropolitan Water District of Southern California and the Orange County Water District's Water Management Plans.

The specific goals and objectives of this Plan are:

- (1.) to determine the effects of water shortages within the City's service area, and provide methods for coping with deficiencies;
- (2.) to evaluate potential conservation methods, and identify operating improvements to implement this management program;
- (3.) to serve as a flexible, "open-ended" document that can be updated in accordance with Sections 10621 and 10640-10644 of AB797 to reflect changes in the City's water supply demands and conservation policy.





## CHAPTER 2

### WATER DEVELOPMENT IN HUNTINGTON BEACH

From 1936 to 1964, the water system serving the City of Huntington Beach was owned and operated by the Southern California Water Company. The City purchased the private system in 1964, which at the time served 2825 customers. Among those served was the Southern California Edison steam generating plant, the largest customer, consuming an average of two million cubic feet per month for boiler feed water.

In 1956 a residential subdivision in county jurisdiction, located southeast of the intersection of Beach Blvd. and Talbert Ave., was developed and water service was provided by Dyke Water Company. Dyke, a private investment operation, provided water from a single well to the 163 homes. Its object was to offer domestic water service. This system was acquired by the City in 1967 after annexation. Services were then metered and the system was tied in to distribution mains, giving the area a guarantee of continuity of service and ample water for fire protection.

Water was provided to the Surfside-Sunset Beach area by the Sunset Beach Water Company. With the development of off-street parking up-coast from Warner Ave. by the County, City water mains were extended through the project to Anderson Street to provide fire service. As the area redeveloped to a higher intensity use, including multi-story structures, Sunset Beach Water Company could no longer meet service



requirements and was acquired by the City in 1966.

Several small water companies served limited areas of old subdivisions bordering Beach Blvd. All provided an adequate but minimal service to customers or association members. As development occurred main extensions passed through these areas to serve new construction and afforded an opportunity for water from the City to those properties being served by the private water operation.

In 1951 the Orange County Municipal Water District (now Municipal Water District of Orange County (MWDOC)) was formed. It was created as the agency to obtain water from Metropolitan Water District of Southern California (MWD) to serve most of the developable lands in Orange County. Not included were the cities of Anaheim, Fullerton and Santa Ana, all original members of MWD, and Coastal Municipal Water District which annexed to MWD in 1942. MWDOC was to act as the wholesaler of water to cities and agencies purveying to users. It had no transmission system and no storage and would provide none of these.

The West Orange County Water Board (WOCWB) was established in 1953 with the City of Huntington Beach as one of its members. WOCWB was the agency to execute the connection to MWD feeders and be the contracting agent to build the transmission mains serving its members.

Huntington Beach leaders commenced their planning, ordered feasibility studies and eventually plans and construction documents. Concurrently they launched an effort to ensure meeting the City's water needs. First





was the promotion of a bond issue to fund delivery of MWD water within the City. This was accomplished in 1955 when a bond issue ballot measure was approved by 78 percent of the electorate.

Major residential development commenced in 1960 and continues to occur today. The housing tracts were followed by commercial development to provide services to the new residents. As the city grew in population commercial use became more substantial, industry gradually moved in to serve the market, banks sprang up. Schools met the needs of the growth. As land became dearer, luxury homes were built and intensive residential land use resulted in extensive condominium construction. From a 1960 population of 11,500 to the 185,105 of 1985 the city has never hindered development by its inability to have water available.

The first construction of housing was in the north and northwest; always abutting or within an economical distance of West Orange County Feeder No. 1. Due to the demand for homes, developers continuously constructed the basic 12-inch and 8-inch master distribution mains.

In 1961 the first water well was developed to supplement imported water.

A second bond issue, in 1963, was presented to the voters and carried by a 94-percent yes vote. These bonds funded the acquisition of Southern California Water Company, construction of West Orange County Feeder No. 2 and a joint venture transmission line with Costa Mesa County Water District to bring water from San Joaquin Reservoir to the east city limits on Adams Avenue, and for other miscellaneous projects.





Despite the rapid growth, water system development remained abreast or ahead of demands put upon it. Trunk water mains up to 42-inch diameter, interconnected with two West Orange County Feeders and the East Feeder on Adams Avenue. Fourteen and 16 inch trunks were extended to ensure adequate services to the geographically isolated extremities of the system.

Between 1961 and 1972, reservoir capacity was increased to 170.5 million gallons; 24.5 MG at Overmeyer, 16.0 MG at Peck, and 130.0 MG at San Joaquin Reservoirs.

Water well development has been ongoing and by 1985 a total of nine wells were in service, capable of producing 27,000 GPM.

For fiscal year 1984-85, the City furnished 77% of its water demands from water wells and purchased the balance from the Metropolitan Water District.

Table 1 summarizes data on the present Huntington Beach water system.

A map showing the locations of wells, reservoirs and major pipelines is included as Plate 1.



TABLE 1  
CITY OF HUNTINGTON BEACH  
WATER FACILITIES

WATER USE

AVERAGE DAILY USE	30.7 MGD
MAXIMUM DAILY USE	56 MGD
AVERAGE FLOW DEMAND	21,320 GPM
MAXIMUM FLOW DEMAND	38,890 GPM
TOTAL YEARLY USE	35,855 AF

RESERVOIRS

NUMBER	4
WATER STORAGE CAPACITY	170.5 MG

WELLS

NUMBER	9
PUMPING CAPACITY	27,600 GPM

MWD CONNECTIONS

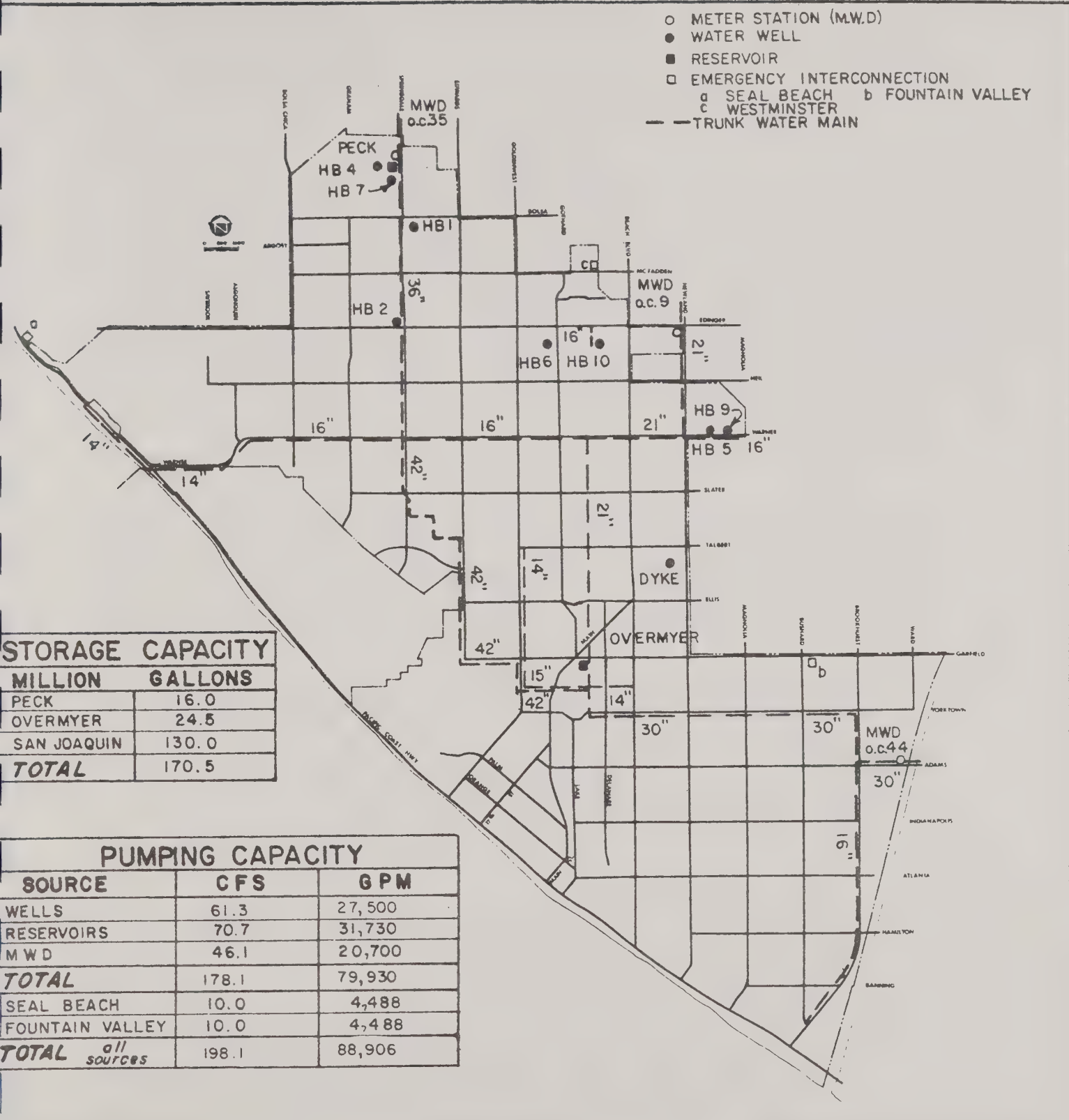
NUMBER	3
IMPORT CAPACITY	20,700 GPM

DISTRIBUTION FACILITIES

WATER MAINS	430 Miles
FIRE HYDRANTS	4117
SERVICE CONNECTIONS	45,207







# CITY OF HUNTINGTON BEACH WATER DIVISION

PLATE I

water wells,  
 reservoirs &  
 trunk mains





## CHAPTER 3

### WATER USAGE

As shown in Table 2, water usage has increased from 164 gallons per capita per day in 1976 to 174 gallons per capita per day in 1984. Although the per capita consumption has increased, it is much less than used by residents of inland Orange County, which is in excess of 200 gallons per capita per day.

Plate 2 indicates percentages of water usage by three categories: Residential (76%), Commercial/Industrial (18%) and Municipal (6%). Municipal usage includes water used to irrigate City parks and landscaping.

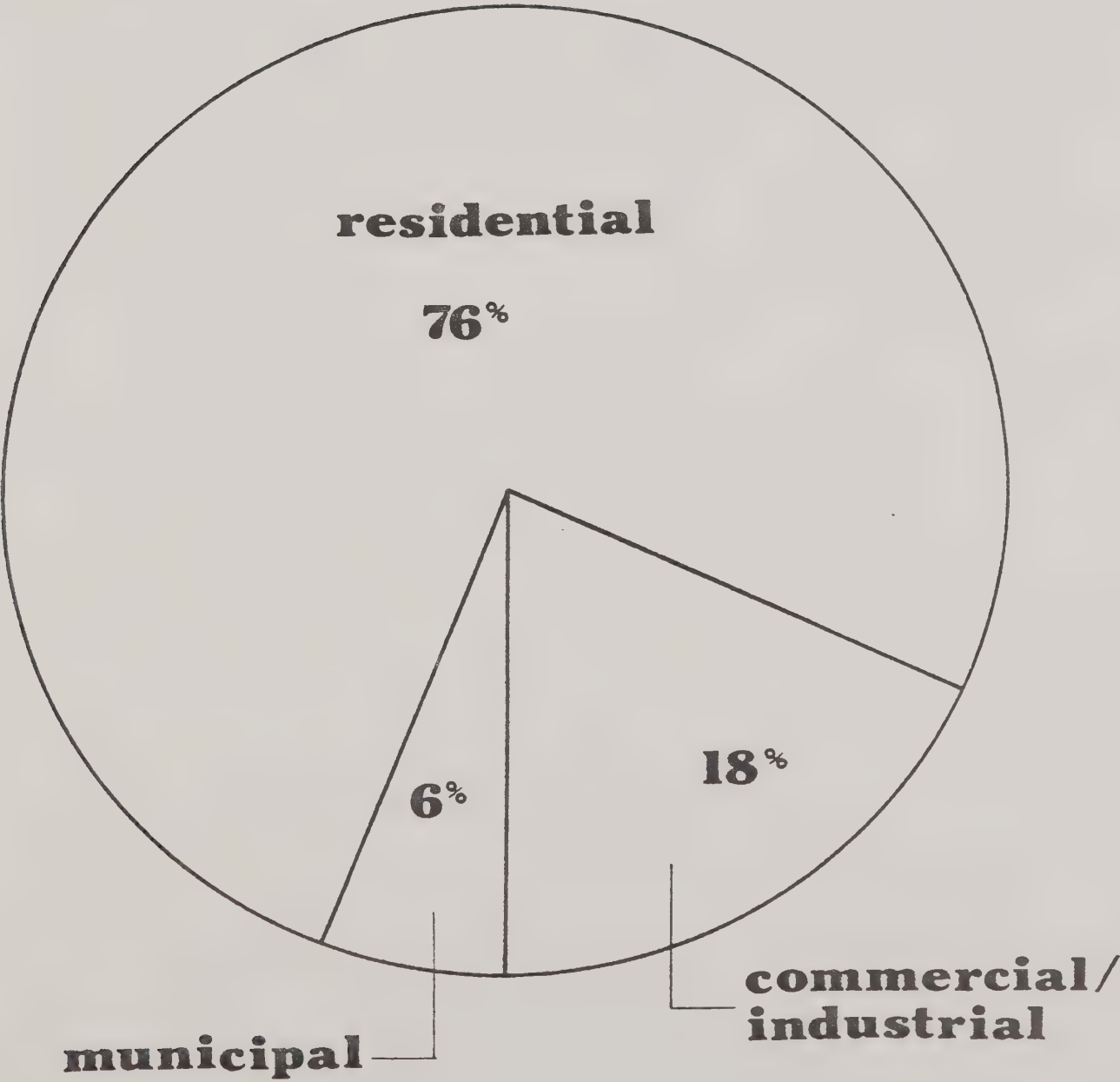
For a typical single-family resident in the City of Huntington Beach, 60% of the water is related to indoor use and the remainder used for landscape irrigation and other uses. Plate 3 indicates the use inside a typical single-family residence.

Population projections for the City, by five-year intervals to year 2010, are shown in Table 2. Using these population projections, future water usages to year 2010 have been calculated. As shown in Table 3, these calculations are based upon a per capita use of 180 gpcpd.



**WATER USAGE**

PLATE 2



SOURCE: CITY OF HUNTINGTON BEACH  
WATER DIVISION





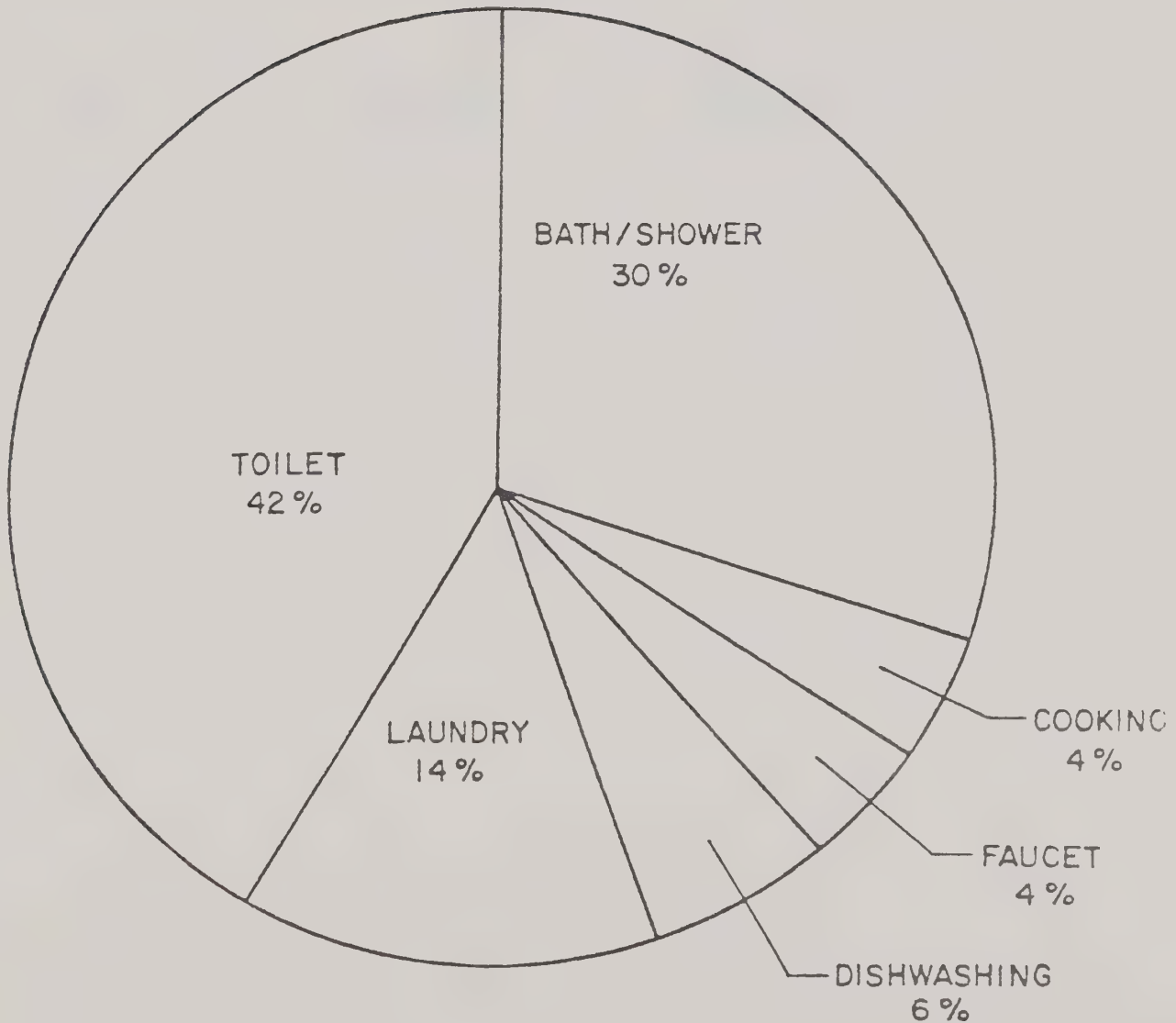
TABLE 2  
HUNTINGTON BEACH WATER USAGE  
HISTORICAL DATA

<u>Year</u>	<u>Usage (AF)</u>	<u>Population</u>	<u>Per Capita Usage (gpcpd)</u>
1976	28,990	160,000	164
1978	29,430	163,000	168
1980	31,960	167,000	167
1982	33,200	176,000	168
1984	36,730	183,000	174

Source: City of Huntington Beach, Water Division



# INDOOR WATER USE IN ORANGE COUNTY



SOURCE : STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES,  
WATER CONSERVATION IN CALIFORNIA BULLETIN 198-84 , JULY 1984 .



TABLE 3  
CITY OF HUNTINGTON BEACH  
PROJECTED WATER USAGE

<u>Year</u>	<u>Estimated Population</u>	<u>Estimated Water (1) Usage (AF)</u>
1985	185,100	37,500
1990	195,980	39,700
2000	205,400	41,600
2010	213,900	43,300

(1 Based on 180 gpcpd





## CHAPTER 4

### WATER DEFICIENCIES AND RESPONSE

Section 10631 (e) of the Act requires that a Plan include a description of the frequency and magnitude of supply deficiencies, including conditions of drought and emergency and the ability to meet deficiencies.

Approximately 25% of the City's water supply consists of imported water purchased from MWD thru MWD OC and the West Orange County Water Board. The impact of projected Met supply shortages on Orange County in future years is summarized in Table 4 . Under average conditions—with present State Water Project (SWP) facilities and assuming no new additional supply sources, shortages in Orange County could begin on an average year basis by 1985, increasing to about 50,000 acre-feet by 2000. In dry years, shortages in any one year would be greater. However, should a severe, extended drought similar to the 1928-34 critical dry period or the 1976-77 drought reoccur, the impacts to Orange County would be far more serious.



TABLE 4

IMPACT OF SHORTAGE IN MWD WATER SUPPLY  
ON ORANGE COUNTY  
(per 1,000 A-F)

<u>Normal Year</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Total Orange County Demand	555	585	615	640
Required MWD Supply	385	410	435	450
MWD Percent Supply Shortage	1.0	6.0	6.6	10.8
Orange County Supply Shortage	4.0	25.0	30.0	50.0
<u>Dry Year</u>				
Total Orange County Demand	610	645	675	705
Required MWD Supply	445	475	500	520
MWD Percent Supply Shortage	10.0	16.7	21.2	26.5
Orange County Supply Shortage	45.0	79.0	106.0	138.0
<u>First Year (1976 Conditions)</u>				
Orange County Demand	610	645	675	705
Required MWD Supply	465	495	520	540
MWD Percent Supply Shortage	10.0	16.7	21.2	26.5
Orange County Supply Shortage	47.0	82.0	110.0	143.0
<u>Second Year (1977 Conditions)</u>				
Orange County Demand	610	645	675	705
Required MWD Demand	465	495	520	540
MWD Percent Supply Shortage	22.2	27.2	30.7	34.8
Orange County Supply Shortage	103	135	160	188
<u>Recurrence of 1928-34 Conditions</u>				
Six-Year Orange County Demand	610	645	675	705
Required MWD Supply	465	495	520	540
MWD Percent Supply Shortage	10.0	20.4	23.1	28.3
Orange County Supply Shortage	47.0	101.0	120.0	153.0

-----

Source: MWD OC, 1983





In the event of an extended drought and water shortage the City of Huntington Beach will undertake the following measures:

#### VOLUNTARY MEASURES

Confirm the existence of a water shortage emergency. Note that an actual shortage does not have to exist, merely the threat of a shortage is sufficient cause for an agency to impose sanctions. After confirmation of a water shortage emergency, an increase in public service announcements, news releases, speaker's bureau activities, and the distribution of bill stuffers and brochures would be initiated.

#### MANDATORY MEASURES

Mandatory water rationing would involve the establishment of an allotment procedure (percentage of previous year's use or fixed allocation based on population, size of meter, etc.) reflecting: (I) an allowance for growth, (II) an exemption for low water use, (III) a procedure for the issuance of variances on a case by case basis. Additional action could include: (1) prohibiting wasteful water uses, (2) imposing moratoriums on new connections, (3) amending water rate structure to encourage conservation, (4) establishing penalties for non-compliance, (5) levying a surcharge for water use in excess of allotment, (6) installation of physical devices to limit flow, and (7) termination of individual user water service in situations of noncompliance.



## CHAPTER 5

### CURRENT WATER CONSERVATION PROGRAMS

Section 10631 (b) of the Act requires identification of conservation measures currently adopted and being practiced. This chapter summarizes the current water conservation measures being taken by Metropolitan Water District of Southern California, Municipal Water District of Orange County, and City of Huntington Beach.

Table 5 shows a summary of the water conservation, distribution system management and water management activities currently implemented by Metropolitan Water District of Southern California.

Table 6 summarizes Municipal Water District of Orange County's water conservation programs as adopted by the Board of Directors for fiscal year 1984-85.

Summarized in Table 7 are current water conservation measures implemented in the City of Huntington Beach.



TABLE 5

## MWD CURRENT WATER CONSERVATION MEASURES

ACTIVITY	DESCRIPTION
I. Education & Public Information	
A. Elementary Schools	In-school education program for fourth and sixth grades to teach pupils to use water wisely. Other programs as requested.
B. High Schools & Colleges	Oral presentations and literature designed to promote water conservation.
C. Public Information	Nine separate activities to disseminate water conservation information
II. Promotional Measures	
A. Landscaping	
1. Literature, Films, and Speakers Bureau	Dissemination of information concerning low-water-use plants.
2. Demonstration Garden	A low-water-using demonstration garden at Metropolitan's headquarters building in Los Angeles.
3. Work with Nurseries	Distribution of literature to encourage low-water-using landscape.
4. Turfgrass Study	Five-year study on turfgrasses and turf substitutes to determine minimum water use to maintain acceptable grass appearance.
5. Residential Landscape Water Conservation study	Two-year study concerning water use in residential landscaping.
B. Water Saving Devices	Distribution of low-water-use devices to retrofit existing plumbing fixtures.





<u>ACTIVITY</u>	<u>DESCRIPTION</u>
C. Work With Large Water Users	Work with large water users to encourage the use of low-water using equipment.
D. Work With Other Agencies	
1. State Agencies	Work with the Department of Water Resources to develop and coordinate programs.
2. Member Agencies	Coordinate water conservation activities with those of its member agencies.
3. Other Organizations	Coordinate water conservation activities with those of other organizations.
4. Conference and forums	Participation in conferences and forums which promote water conservation.
III. Distribution System Management	
A. Water Audit	Perform weekly and monthly water audits on entire distribution system.
B. Metering	Meter all water entering and leaving distribution system.
C. Meter Maintenance and Calibration	Meters checked, lubricated and calibrated every three months, complete maintenance and calibration every 12 months.
D. Corrosion Control	Extensive corrosion control program maintained to test chemicals and materials to determine their resistance to corrosion.
E. Valve Exercising	Valves maintained and exercised every 6 or 12 months depending on size.
F. Leak Detection	Consultants are hired periodically to detect and repair leaks throughout distribution system.



<u>ACTIVITY</u>	<u>DESCRIPTION</u>
IV. Water Management	
A. Local Projects	Local projects program to assist in financing local projects to reclaim waste water.
B. Replenishment Programs	Direct and indirect replenishment program to optimize use of ground-water basins.
C. Pricing	Interruptible water service to encourage maximum use of existing supplies.

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SOURCE: METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, 1985





TABLE 6

MWDOC WATER CONSERVATION PROGRAMS

PUBLIC INFORMATION ACTIVITY

- Continue and expand MWDOC school program
- Special events (tours) and public information meetings
- Public presentations
- Prepare WATER FORUM newsletter
- Conducted XERISCAPE '85 seminar
- Produced XERISCAPE brochure for distribution

PROMOTIONAL ACTIVITY

- Design water conservation exhibit for 1985 Home and Garden
- Organize Orange County Water Awareness Week
- Participate in UC Riverside Turfgrass Study
- Meet with local/regional/state/federal agencies

WATER MANAGEMENT ACTIVITY

- Conduct contracting agencies technical seminar
- Coordinate Irvine Company landscape conservation project

---

SOURCE: MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, 1985



TABLE 7

## CITY OF HUNTINGTON BEACH

## CURRENT WATER CONSERVATION MEASURES

	<u>DESCRIPTION</u>
I. Public Information	
A. Literature	The City has mailed and displayed brochures and posters promoting water conservation.
B. Schools	Oral presentations and literature disseminated.
II. Water Supply	
A. Import Water	Participation in MWD in-lieu water sales program.
III. Water System	
A. Water Mains	Replacement of older water mains with histories of frequent repairs.
B. System Pressure	System pressure is lowered by 7 psi from 11:30pm to 5:30am.
C. Telemetry System	A new state-of-the-art system is under contract and will assist in optimizing reservoir levels.

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SOURCE: CITY OF HUNTINGTON BEACH, WATER DIVISION



## CHAPTER 6

### ALTERNATIVE WATER CONSERVATION MEASURES

This chapter contains information required by two parts of Section 10631 of the Act. The first part requires a description of the alternative conservation measures that could improve the efficiency of water use, along with an evaluation of their significant impacts; the second part requiring a schedule of implementation for the proposed alternative conservation measures.

#### ALTERNATIVE LEVELS OF CONSERVATION

The Municipal Water District of Orange County, in 1982 completed a water conservation plan. A similar plan would be implemented by the City of Huntington Beach. This plan outlines four levels of water conservation, including emergency planning. The remaining three levels: minimal (base level), moderate and advanced, represent scenarios for increasingly comprehensive levels of water management in a normal year.

Each program Builds upon the base level, expanding the target areas for conservation in each successive stage of the program. If all levels can be successfully implemented, it is estimated that a 10 to 15% reduction in water demand could be achieved by the year 2000. Table 8 summarizes the four alternative levels of water conservation. Regarding fixture and appliance retrofit in Orange County, refer to MWDOC's Urban Water Management Plan.





No significant economic, health, environmental or technological impacts are anticipated as a result of implementing the activities listed in Table 8.

#### IMPLEMENTATION SCHEDULE

Table 9 summarizes the implementation for the proposed alternative conservation measures. It is anticipated that prior to implementation, many of the alternative water conservation programs will require review and approval by MWDOC's Board of Directors and City of Huntington Beach City Council.



TABLE 8

## ALTERNATIVE LEVELS OF WATER CONSERVATION

- I. Minimal
  - School Program \*
  - Distribution of MWDOC Literature \*
  - Speaking Engagements - Speakers Bureau \*
  - Slide Show for Speakers Bureau
  - Media Contacts \*
  - Minimal Evaluation of Program
- II. Moderate
  - Expand School Program in Junior/Senior High \*
  - Encourage Development of Drought Tolerant Plants
  - Seminars for Contracting Agencies \*
  - Establish Technical Review Committee
  - Promotional Activity
  - Water Audits (With Awards) for Retail Agencies
  - Seminars for Landscape Industry \*
- III. Advanced 2
  - Contact Nurseries
  - Home Budget Workbook
  - Lease and Maintain Leak Detection Equipment 3
  - Expand MWD Literature Distribution \*
  - Encourage Retailers to Work With Large Water Consumers
  - Promote Ordinances - Develop Models
  - Detailed Program Evaluation
- IV. Emergency
  - Voluntary Reduction
  - Restriction of Uses
  - Mandatory Restrictions
  - Water Pricing Penalties
  - Water Rationing
  - Retrofit Kit Distribution \*

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SOURCE: MUNICIPAL WATER DISTRICT OF ORANGE COUNTY 1985

NOTES: (\*) Asterisk indicates activity already implemented  
(1) MWDOC Water Conservation Study, 1982  
(2) Nurseries contacted through Xeriscape program  
(3) MWDOC has assisted retail agencies in securing leak detection grant funds from State Office of Water Conservation.



TABLE 9

ALTERNATIVE LEVELS OF WATER CONSERVATION  
IMPLEMENTATION SCHEDULE

	STATUS
I. Minimal	
- School Program	*
- Distribution of Metropolitan Literature	*
- Speaking Engagements	+
- Slide Show for Speakers Bureau	X2
- Media Contacts	#
- Minimal Evaluation of Program	X1
II. Moderate	
- Expand School Program in Junior/Senior High	X1
- Encourage Development Drought Tolerant Plant Exhibits	X2
- Seminars for Contracting Agencies	*
- Establish Technical Review Committee	X1
- Promotional Activity	#
- Water Audits (with awards) for Retail Agencies	X1
- Seminars for Landscape Industry	*
- Evaluation of Moderate Program	X1
III. Advanced	
- Contact Nurseries	X1
- Home Budget Workbook	X2
- Lease and Maintain Leak Detection Equip.	#
- Expand Metropolitan Literature Distrib.	+
- Encourage Retailers to Work with Large Water Consumers	X2
- Promote Ordinances	#
- Detailed Program Evaluation	X1
IV. Emergency	
- Voluntary Reduction	#
- Restriction of Uses	#
- Mandatory Restrictions	#
- Water Pricing Penalties	#
- Water Rationing	#
- Retrofit Kit Distribution	+

---

SOURCE: MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, 1985

NOTES: (\*) Indicates on-going activity  
 (X1) Indicates activity to be implemented by MWD OC  
 (X2) Indicates activity to be coordinated by MWD OC  
 (+) Indicates activity efforts to be increased  
 (#) Indicates evaluation of current activity efforts





CHAPTER 7  
WASTEWATER RECLAMATION

Section 10632 (a) of the Act requires urban water suppliers to evaluate the potential for producing additional water supplies from wastewater reclamation activities. For this portion of our Urban Water Management Plan, please refer to Chapter 6 of the Municipal Water District of Orange County and Chapter 6 of the Metropolitan Water District of Southern California's final plan.



## CHAPTER 8

### EXCHANGE AND TRANSFERS OF WATER

Section 10632 (b) of the Act requires urban water suppliers to explain and evaluate their plans for future exchanges or transfers of water from Orange County.

#### INTERCOUNTY TRANSFERS

In general, Southern California has been creative in its usage of water transfers and exchanges, with much of its supply coming from hundreds of miles away. Details of these major transfers and of the innovative water exchanges, either agreed on or under active negotiation, are included in Metropolitan's Urban Water Management Plan.

#### INTRACOUNTY TRANSFERS

Municipal Water District of Orange County each year tabulates the projected demand by agencies five years into the future, utilizing a hydraulic model of the imported water distribution systems which determines whether sufficient transmission capacity exists to meet local needs and where surplus capacity is available. MWDOC distributes this information throughout the county to facilitate regional and local planning efforts. The provision of this service by MWDOC over the past twelve years has played a key role in the development of both local and regional development projects. It is important to remember, however, that as an arid area depending upon imported water for approximately 75% of its supply, Orange County offers few opportunities for water exchanges or transfers.



## INTERCITY TRANSFERS

The City of Huntington Beach has three emergency connections with neighboring cities. Listed below are the locations and pertinent data:

<u>CITY</u>	<u>LOCATION</u>	<u>CAPACITY (GPM)</u>
Seal Beach	Anderson St.	1800
Fountain Valley	Garfield Ave. & Bushard St.	4000
Westminster	McFadden & Sugar Ave.	3000



## CHAPTER 9

### MANAGEMENT OF SYSTEM PRESSURE AND PEAK DEMANDS

Section 10632 (c) of the Act requires an evaluation of the management of water system pressures and peak demands by urban water suppliers. This chapter will address several aspects of water system management – system pressure and peak demand management. In looking at this concept, it is important to keep in mind that (1) a reduction in distribution system pressure will, to a certain degree, conserve water by reducing leaking in water and plumbing systems as well as reducing wastage of water when turning water fixtures on and off. Energy can also be conserved, not only by conservation of water, but also by reducing pumping which may be necessary to achieve system pressure. (2) A reduction in peak demands can reduce the need for construction of new water storage and conveyance facilities and in certain instances, the development of new water sources.

#### SYSTEM PRESSURE MANAGEMENT

Metropolitan's pressure peak demand management is described in detail within its Urban Water Management Plan. In the City of Huntington Beach water system, the pressure varies from 55 to 70 psi. In an emergency the pressure can be lowered to 40 to 45 psi, still meeting residential and fire protection demands.

#### PEAK DEMAND MANAGEMENT

During 1984 and 1985 microprocessors were installed at Peck Reservoir and Overmeyer Reservoir, to optimize pumping during daytime use. Peak demands can be better managed by coordinating water levels at both Reservoirs.





## CHAPTER 10

### CHANGES IN PRICING, RATE STRUCTURES AND REGULATIONS

Section 10632 (f) of the Act requires urban water suppliers to review water rate structures and how the application of these structures have contributed to efficient water use. In general, retail water rates in Orange County are the sum of wholesale agency rates and the cost of production and distribution unique to each retailer. Municipal Water District of Orange County's Urban Management Plan provides an overview of current and future water pricing, regulations and rate structure by wholesale agencies.

#### CITY RATE STRUCTURE

Currently the City of Huntington Beach has a rate structure with a minimum charge per month and allowable usage dependent upon the size of service.

A copy of the rate schedule is included in Table 10.



TABLE 10  
CITY OF HUNTINGTON BEACH  
DOMESTIC, COMMERCIAL AND INDUSTRIAL WATER SERVICE

		<u>Quantity rates</u>
First 500 cu. ft. or less		\$4.00
Over 500 cu. ft., per 100 cu. ft.		\$0.41
Minimum Charges		
<u>Size of service</u>	<u>Minimum charge per month</u>	<u>Water in cu. ft.</u>
5/8" or 3/4"	\$ 4.00	500
1"	\$ 6.80	1,000
1-1/2"	\$ 9.50	1,500
2"	\$ 12.50	2,000
3"	\$ 31.00	5,000
4"	\$ 55.50	9,000
6"	\$110.00	18,000
8"	\$157.50	26,000
10"	\$210.00	35,000

A charge of one dollar (\$1) shall be made for each unit in excess of one connected to each meter.

"Unit" means any building or a portion of a building consisting of one or more rooms separated from the rest of the building by a partition, occupied independently of the other parts of the building, or another building.

The above water rates, plus a 10 percent surcharge, shall be applicable to areas outside the boundaries of the City of Huntington Beach, wherever the city services water, including Sunset Beach, an unincorporated area, and Surfside, located within the City of Seal Beach.



In Huntington Beach water is sold on a uniform rate schedule to all types of users. Of thirty-one (31) retail water agencies in Orange County sixteen (16) have uniform rates, eight (8) have increasing block rates and seven (7) use decreasing block rates.

Water conservation may be motivated by (1) changing to an increasing block rate structure or by (2) instituting peak load or seasonal pricing.

In using an increasing block rate, the first block approximates average water use. The incremental cost of subsequent higher blocks may motivate consumers to install water-saving devices, or drought-resistant landscaping and to practice conservation on a year-round basis.

Peak load pricing involves decreasing usage of water at peak demand periods and to encourage off-peak usage. Peak load pricing would essentially utilize a surcharge on the summer water usage that exceeds a specified multiple of the consumers average consumption.

Seasonal pricing uses a divided rate structure i.e., there are higher per unit charges in summer months than in winter months. Compared to peak load pricing, seasonal pricing is less difficult to establish, more easily communicated to consumers, and less complex to administer.

Peak load pricing has significant advantages when compared to other systems designed to reduce excessive seasonal demand. The surcharge is equitably applied, thereby providing the consumer a clearly understood rationale for conserving water. Implementing peak load pricing presents problems similar to those detailed for increasing block rate pricing.





As before, effective and consistent communication with consumers is a prerequisite to establishing a successful pricing system. However, this program is more difficult to implement and administer than either increasing block or seasonal pricing.



APPENDIX

Water Code Chapter 1009, Statute 1983

(Assembly Bill 797)



## Assembly Bill No. 797

## CHAPTER 1009

An act to add and repeal Part 2.6 (commencing with Section 10610) to Division 6 of the Water Code, relating to water conservation.

[Approved by Governor September 21, 1983. Filed with Secretary of State September 22, 1983.]

## LEGISLATIVE COUNSEL'S DIGEST

AB 797, Klehs. Water: management planning.

(1) Under existing law, local water suppliers may, but are not required to, adopt and enforce water conservation plans.

This bill would require every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt, in accordance with prescribed requirements, an urban water management plan containing prescribed elements. The bill would require the plan to be filed with the Department of Water Resources, and would require the department to annually prepare and submit to the Legislature a report summarizing the status of the plans. The bill would require each supplier to periodically review its plan in accordance with prescribed requirements, would specify requirements for actions or proceedings arising under the bill, and would specify related matters.

The bill would make legislative findings and declarations in this connection.

The provisions of the bill would remain in effect only until January 1, 1991.

(2) Article XIII B of the California Constitution and Sections 2231 and 2234 of the Revenue and Taxation Code require the state to reimburse local agencies and school districts for certain costs mandated by the state. Other provisions require the Department of Finance to review statutes disclaiming these costs and provide, in certain cases, for making claims to the State Board of Control for reimbursement.

This bill would impose a state-mandated local program as its requirements would be applicable to local public agencies.

However, the bill would provide that no appropriation is made and no reimbursement is required by this act for a specified reason.

*The people of the State of California do enact as follows:*

SECTION 1. Part 2.6 (commencing with Section 10610) is added to Division 6 of the Water Code, to read:

## PART 2.6. URBAN WATER MANAGEMENT PLANNING

## CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. The Legislature finds and declares as follows:

(a) The waters of the state are a limited and renewable resource subject to ever increasing demands.

(b) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

## CHAPTER 2. DEFINITIONS

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Conservation" means those measures that limit the amount of water used only to that which is reasonably necessary for the beneficial use to be served.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate reasonable and practical efficient uses and conservation activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for



implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 7 (commencing with Section 4010) of Part 1 of Division 5 of the Health and Safety Code.

### CHAPTER 3. URBAN WATER MANAGEMENT PLANS

#### Article 1. General Provisions

10620. (a) Every urban water supplier serving water directly to customers shall, not later than December 31, 1985, prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier after December 31, 1984, shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water to customers may adopt an urban water management plan or participate in areawide, regional, watershed, or basinwide urban water management planning; provided, however, an urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

10621. Each urban water supplier shall periodically review its plan at least once every five years. After the review, it shall make any amendments or changes to its plan which are indicated by the review. Amendments or changes in its plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

### Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall include all of the following elements:

(a) Contain an estimate of past, current, and projected water use and, to the extent records are available, segregate those uses between residential, industrial, commercial, and governmental uses.

(b) Identify conservation measures currently adopted and being practiced.

(c) Describe alternative conservation measures, if any, which would improve the efficiency of water use with an evaluation of their costs and their environmental and other significant impacts.

(d) Provide a schedule of implementation for proposed actions as indicated by the plan.

(e) Describe the frequency and magnitude of supply deficiencies, including conditions of drought and emergency, and the ability to meet short-term deficiencies.

10632. In addition to the elements required pursuant to Section 10631, a plan projecting a future use which indicates a need for expanded or additional water supplies shall contain an evaluation of the following:

(a) Waste water reclamation.

(b) Exchanges or transfer of water on a short-term or long-term basis.

(c) Management of water system pressures and peak demands.

(d) Incentives to alter water use practices, including fixture and appliance retrofit programs.

(e) Public information and educational programs to promote wise use and eliminate waste.

(f) Changes in pricing, rate structures, and regulations.

10633. The plan shall contain an evaluation of the alternative water management practices identified in Sections 10631 and 10632, taking into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

Evaluation of the elements in Section 10632 shall include a comparison of the estimated cost of alternative water management practices with the incremental costs of expanded or additional water supplies, and in the course of the evaluation first consideration shall be given to water management practices, or combination of practices, which offer lower incremental costs than expanded or additional water supplies, considering all the preceding evaluation factors.





### Article 3. Adoption and Implementation of Plans

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. (a) An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water conservation and management methods and techniques.

(b) In order to assist urban water suppliers in obtaining needed expertise as provided for in subdivision (a), the department, upon request of an urban water supplier, shall provide the supplier with a list of persons or agencies having expertise or experience in the development of water management plans.

10642. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. An urban water supplier shall file with the department a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be filed with the department within 30 days after adoption.

The department shall annually prepare and submit to the Legislature a report summarizing the status of the plans adopted pursuant to this part.

### CHAPTER 4. MISCELLANEOUS PROVISIONS

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part, or within 18 months after commencement of urban water service by a supplier commencing that service after January 1, 1984.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be

commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans prepared and adopted under this part. Nothing in this part shall be interpreted as exempting projects for implementation of the plan or for expanded or additional water supplies from the provisions of the California Environmental Quality Act.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board in obtaining that information. The requirements of this part shall be satisfied by any water conservation plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing water management or conservation plan which includes the contents of a plan required under this part.

10654. All costs incurred by an urban water supplier in developing or implementing its plan shall be borne by it unless otherwise provided for by statute.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. This part shall remain in effect only until January 1, 1991, and as of that date is repealed, unless a later enacted statute, which is chaptered before January 1, 1991, deletes or extends that date.

SEC. 2. No appropriation is made and no reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution or Section 2231 or 2234 of the Revenue and Taxation Code because the local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act.

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